response to the

ERGEG draft GGP on regulatory aspects of smart metering for electricity and gas

Ref: E10-RMF-23-03

3 September 2010

ESMIG response to the ERGEG Public Consultation Paper on Draft Guidelines of Good Practice on Regulatory Aspects of Smart Metering for Electricity and Gas

About ESMIG

The European Smart Metering Industry Group (ESMIG) is the European industry association that provides knowledge and expertise on Smart Metering and related communications at a European level. ESMIG's members are the leading companies in the European Smart Metering Market: meter manufacturers, IT companies and system integrators. ESMIG covers all aspects of Smart Metering, including electricity, gas, water and heat measurement. Member companies cover the entire value chain from meter manufacturing, software, installation, consulting to communications and system integration. By giving support to European Union Institutions, Member States and Standardisation Organisations, the industry group aims to assist in the development of national and European-wide introduction, roll-out and management of Smart Metering solutions.

Recently ESMIG has been recognised as an Official Partner of the Sustainable Energy Europe Campaign: www.sustenergy.org

In the area of European and international standardisation, ESMIG has concluded several cooperation agreements with partners, such as CEN, CENELEC, DLMS, ETSI, KNX, OPENmeter and ZigBee and further agreements are foreseen. The partnership scheme is open to any Standardisation Organisation that shares ESMIG's core belief in open and interoperable standards.

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ESMIG response to the ERGEG Public Consultation Paper on Draft Guidelines of Good Practice on Regulatory Aspects of Smart Metering for Electricity and Gas

Introduction

ESMIG welcomes ERGEG's guidelines of Good Practice on Regulatory Aspects of Smart Metering for Electricity and Gas and appreciates the opportunity to present industry's views during the consultation process on ERGEG's recommendations.

ESMIG has not commented on all recommendations, but mainly those which were highlighted by ERGEG (recommendations 4 and 20 as well as 13) and those where ESMIG felt it was appropriate to contribute further information and/or where comments seemed to be necessary to clarify the issue better.

In general all ERGEG recommendations are relevant when implementing Smart Metering solutions in the EU Member States, probably to various degrees and with slightly different interpretations. In relation to recommendation 14, the section on costs and benefits analysis (CBA), ESMIG would like to point out that ERGEG correctly lists most of the expected benefits for the different stakeholders and highlights the crucial parameter for any CBA, namely the "extensive value chain" to be used. However, it was felt that the section falls short when addressing the expected costs for such a roll-out and how they should or could be shared among stakeholders.

The main priority should be to start deployment of Smart Metering technology as soon as possible. Smart Metering is the foundation of and an essential first step towards the development of the smart grid, and the technology is available right now.

If we wait until 2020 for 80% of European consumers to be equipped with Smart Metering, and until 2022 for 100% coverage, we have no chance of achieving the "20-20-20 targets". All three of these targets depend on the grid for their realisation, and the gateway to the grid from the final consumer/prosumer is the metering system. Therefore, meeting the 2020 goals depends on a quick deployment of Smart Metering technology, which can then be built upon to develop the smart grid.

ESMIG looks forward to continuing the exchange on these guidelines and our comments with ERGEG and other stakeholders, as the guidelines address crucial issues in relation to the roll-out of Smart Metering technologies in EU Member States.

Recommendation 1
Supported by ESMIG. At least monthly whether it is a bill or via other means of information (e.g. Sweden).

- **Recommendation 2**

Supported by ESMIG. Enables smooth switching and moving.

- **Recommendation 3**

Supported by ESMIG. No more estimates.

- **Recommendation 4. Offers reflecting actual consumption patterns**

Member States or, where a Member State has so provided, the regulatory authority, shall strongly recommend that electricity undertakings optimise the use of electricity, developing innovative pricing formulas which reflect actual consumption.

It is key that the supplier should be able to make offers to the customer and those that both generate and consume electricity that better reflect actual consumption/injection divided into different time periods. These offers may reflect consumption between peak and off-peak time periods, such as time of use prices. Furthermore, the customer and those that both generate and consume electricity should be informed of the costs/earnings of the usage/injection divided into the different time periods. To enable this service, the metering interval needs to be divided into periods that would be less than monthly, i.e. through interval metering.

4. a) Question to stakeholders:
When interval metering is applied, which interval should be used for customers and those that both generate and consume electricity? Please specify timeframes and explain.
1. Less than half an hour
2. Half an hour
3. One hour
4. More than one hour

4. b) Question to stakeholders:
When Time-of-use (ToU) registers are applied for customers and those that both generate and consume electricity, what would be appropriate number of registers? (Comment: In this case, registers are equivalent to prices).

ESMIG response:
a) Current Smart Metering technology can provide any of the four options mentioned by ERGEG and in future potentially even shorter intervals (e.g. 15 minutes for electricity) depending on the needs or demand.

ESMIG would recommend that the metering interval should not be greater than 1 hour, in order to suit the energy exchange market and enable an acceptable residential tariff

structure. Please note: "Metering interval" is independent of communication frequency ("remote reading").

However, in order to enable more innovative, additional functionalities which may require intervals less than half an hour (option 1), special care should be taken in relation to data privacy issues.

b) From a technology supplier's point of view you can have as many registers as you want.

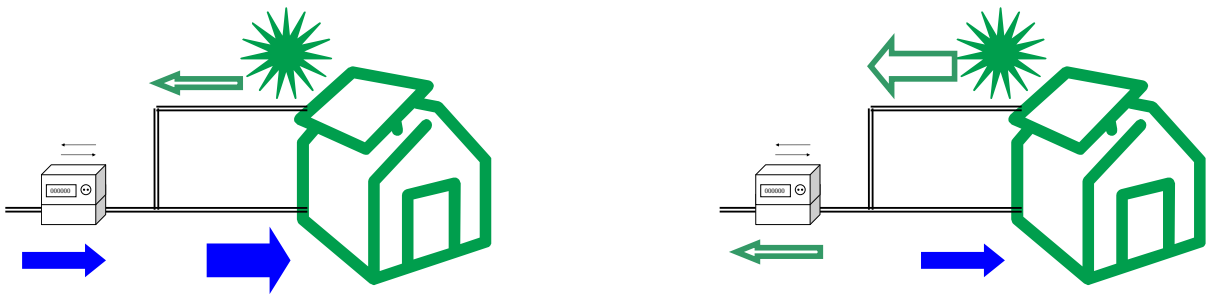
ESMIG would not like to recommend any number of registers, but depending on specific national conditions the number of registers should be appropriate and effective.

- **Recommendation 7**

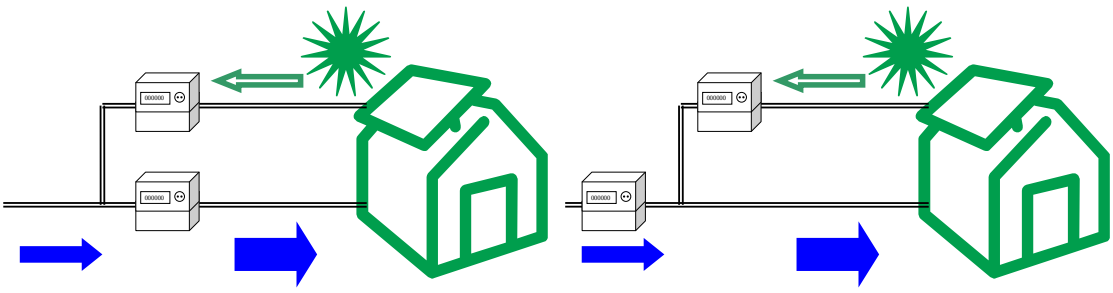
While one bi-directional meter can measure the import and export of energy on its registers, the actual requirement in some EU Member States does not allow using this meter to measure the gross generation output separately. Therefore in most situations two separate meter functions are required.

In fact, a meter can measure net production or consumption at the customer level, but it cannot measure both the gross generation and the net export/import at the same time and separately. If only one meter is used, the embedded micro generation would not be apparent separately and the behaviour or pattern of energy flows in the local distribution networks would be completely unpredictable. ESMIG recommends that separate measurements be performed to ensure that DSOs are able to manage more dynamic power flows in the network.

If there is only one meter to measure the net input/output how can a micro-generation output be properly remunerated? Feed-in tariffs could not be supported and would then have to be converted to net import/export tariffs. This would negatively impact on the incentives for consumers to invest in micro-generation.



Single meter measures only net energy income or outcome



Two meters required for fed in tariffs (2 possibilities)

With two meters and adequate functionality in the meter data management system, any desired quantity can be calculated (net/gross import/export, different import/export tariffs).

- **Recommendation 8**

Supported by ESMIG.

- **Recommendation 9**

In the event of an outage the smart meter may not (be able to) send an alert, but it will be detected as non-responsive.

ESMIG considers the generation of individual outage alarms by mains powered devices as a very significant cost driver, since in consequence it will require back-up power sources in all such devices. We would suggest to restrict the requirement for powered devices to the detection of a loss of the communication link.

- **Recommendation 10 (and recommendation 24)**

We would recommend handling and display of high consumption alarms preferably on a local basis, i.e. on an in-home display. Generally, alerts in the event of high energy consumption should not cause nuisance to the customer and should therefore be implemented in a user-friendly way.

- **Recommendation 13: Information on continuity of supply**

Referring to the CEER 4th Benchmarking Report on Electricity Quality of Supply, "Countries that do not monitor incidents at LV are encouraged to investigate the use of electronic energy meters (known as "smart meters") in an automated scheme for logging interruptions." By being able to measure interruptions through smart meters, improved information about incidents in the LV grid would be primarily beneficial for the DSO and as a consequence beneficial for the grid users; e.g. precise starting time and finish time for interruptions. However, possible costs of implementing this functionality should be considered. When referring to interruptions, relevant European and global standards should be referred to (IEC 61000-4-30: Testing and measurement techniques - Power quality measurement methods), otherwise various smart meters will contain differing definitions of

what an interruption is. The standard IEC 61000-4-30 includes measurement technique for voltage interruptions.

Recommendation 13. Question to stakeholders:
What further services should be envisaged in order to allow consumers and those that both generate and consume electricity to be aware and active actors in smart grids?

ESMIG response:
The creation of a "smart grid", as the ERGEG position paper on that topic correctly points out, is not an end in itself, but rather the means to enable the achievement of specific energy and environmental policy goals.

Question 13 asks for other specific services, but the "big picture" should not get lost: All of the EU's 20-20-20 goals depend on the development of a smart grid with multi-directional energy and information flows. This also implies active "prosumers" as an integral part of that network. As the part of the grid that currently has the least amount of "intelligence", and is essentially blind, is the last mile from the substation to the end consumer, it is bringing intelligence and vision to this last mile that is key. Smart metering is the essential first step towards a Smart Grid.

Therefore, with the rapid deployment of Smart Metering, the grid becomes smart at the most critical point, this in turn enables the development of a truly smart grid and thus the attainment of increased energy efficiency, a greater share of renewable energies and reduced CO_2 emissions.

- **Recommendation 14**

The scope to be used for a cost-benefit analysis, namely an "extensive value chain" (societal analysis) and the list of benefits to different stakeholders is convincing and has to be applauded.

In relation to benefit "W) Reduction of greenhouse gas emissions and increases in energy efficiency", ESMIG would like to underline that this is clearly a benefit for society as a whole and should not be affected by the choice of the market model. On the contrary, the market model should ensure that these environmental and energy-efficiency goals will be achieved. Unfortunately the guidelines do not address the issue of how to share the costs among the stakeholders or the financing aspects of rolling out and operating a Smart Metering infrastructure.

When conducting a cost-benefit analysis, the "status quo" cannot be the baseline. In other words, the point of reference in an economic analysis of the costs and benefits of Smart Metering cannot be a "business as usual" scenario. Most of the meters in place today have long been written off, but utilities continue to collect metering fees, or incorporate meter rental into grid use fees.

The basis for any cost-benefit analysis must include the costs of not deploying Smart Metering, i.e. opportunity costs. What would be the costs, e.g. in terms of the inability to incorporate the necessary amounts of renewable energies, of not having a system in place that allows those who consume energy, those who produce through micro-generation, and those who do both from actively participating in the energy market?

Smart Metering is the essential first step towards a Smart Grid and it should therefore not preclude any further potential developments and their benefits (such as home automation, micro-network load management, electric vehicles, micro-generation etc).

- **Recommendation 15**

If a roll-out is assessed positively, then it should be done with a high level of coverage, ideally 100%, in particular for the recommended "minimum services" and data required for smart grid management. Otherwise, certain services cannot be implemented at all or they will not create the expected benefits. It may also be socially unfair, as some customers who may not participate will nevertheless benefit from Smart Metering, but will not have to pay or contribute.

- **Recommendation 16**

Supported by ESMIG. ESMIG would like to point out that "scattered" installations of smart meters compared to area-wide roll-outs will increase costs significantly.

- **Recommendation 20: Offers reflecting actual consumption patterns**

Member States or, where a Member State has so provided, the regulatory authority, shall strongly recommend that gas undertakings optimise the use of gas, developing innovative pricing formulas which reflect actual consumption.

It is key that the supplier should be able to make offers to the customer that better reflect actual consumption divided into different time periods. These offers may reflect consumption between peak and off-peak time periods, such as time of use prices. Furthermore, the customer should be informed about the costs/earnings of the usage divided into the different time periods. To enable this service, the metering interval needs to be divided into periods that would be less than monthly.

Recommendation 20. a) Question to stakeholders:
When interval metering is applied, which interval should be used for customers? Please specify
and explain.
- One hour
- One day
- One week
- Other

20. b) Question to stakeholders:

When time-of-use (ToU) registers are applied for customers, what would be an appropriate number of registers? (Comment: In this case, registers are equivalent to prices)

ESMIG response:
a) Current Smart Metering technology can provide any of the four options mentioned by ERGEG and in future potentially shorter intervals depending on the needs or demand.

However, ESMIG would like to point out that the increase in meter readings and in particular the frequency of communication can affect the battery life of gas meters, e.g. if hourly readings are also communicated every hour.

b) From a technology supplier's point of view you can have as many registers as you want. ESMIG would not like to recommend any number of registers, but depending on specific national conditions the number of registers should be appropriate, and effective.

- **Other comments**

With regard to recommendations 8 and 21 ESMIG would like to highlight that, with particular reference to consumption data, the entire data flow and access to information has to take into account data security, privacy and consumer confidence aspects. This recommendation can only be achieved by applying security measures to all elements of the Smart Metering infrastructure.

Finally, ESMIG would like to highlight that all stakeholders should have equal access to a jointly defined set of Smart Metering services made available.